

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/675,627 ✓

Confirmation No.: 9578

First Named Inventor: Michael Rumer

Filing Date: September 29, 2000

Group Art Unit: 2822

Examiner: Pamela E. Perkins

Atty. Docket No.: M-8570 US

Title: PVD Deposition Process For Enhanced Properties Of Metal Films

Assignee: Novellus Systems, Inc.

San Francisco, California  
November 26, 2002

Box Non-Fee Amendment  
COMMISSIONER FOR PATENTS  
Washington, D. C. 20231

AMENDMENT

Sir:

This is in response to a non-final office action mailed on August 28, 2002, which set a shortened statutory period for response that expires on November 28, 2002. In view of the following amendment and remarks, reconsideration is respectfully requested.

In the Specification:

Please delete the paragraph at page 5, lines 6-14, and replace it with the replacement paragraph set forth below. A copy of the replacement paragraph in marked form appears in Appendix 1.

PVD is typically performed in a cluster tool, which includes at least a separate module for each layer to be deposited. For example, to produce a Ti/TiN/Al/TiN interconnect stack, titanium is deposited in a first module, titanium nitride in a second, aluminum in a third, and the titanium nitride overlayer in a fourth module. Commercially available PVD cluster tools include the Inova®, provided by Novellus Systems, Inc. (San Jose, CA) and the Endura®, provided by Applied Materials (Santa Clara, CA). Standard PVD processes and equipment are described, for example, in Chapter 10 of



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2822/1  
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11-29-02  
November 26, 2002

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Commissioner For Patents  
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Re: Application No.: 09/675,627  
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Sir:

Transmitted herewith are the following documents in the above-identified application:

- (1) Return Receipt Postcard;
- (2) This Transmittal Letter (in duplicate);
- (3) Amendment including Appendices 1, 2 & 3 (19 pgs.);
- (4) Submission of Formal Drawings (1 pg.); and
- (5) Formal Drawings (3 sheets).

☐ The fee has been calculated as shown below:

**CLAIMS AS AMENDED**

	Claims Remaining <u>After Amendment</u>		Highest No. Previously <u>Paid For</u>		Present <u>Extra</u>	<u>Rate</u>	<u>Additional Fee</u>
Total Claims	22	Minus	22	=	0	x \$18.00	\$ 0.00
Independent Claims	4	Minus	4	=	0	x \$84.00	\$ 0.00
<input type="checkbox"/> Fee of \$	for the first filing of one or more multiple dependent claims						\$
<input type="checkbox"/> Fee for Request for Extension of Time (	month(s))						\$
<input type="checkbox"/> Fee for							\$

**Total additional fee for this Amendment:**

- ☐ Please charge our Deposit Account No. 19-2386 in the amount of \$ 0.00
- ☒ Conditional Petition for Extension of Time: If an extension of time is required, the Commissioner is authorized to deduct the necessary fee from Deposit Account No. 19-2386.
- ☒ Also, charge any additional fees required and credit any overpayment to our Deposit Account No. 19-2386.

EXPRESS MAIL LABEL NO:

EV 259 161 652 US

Respectfully submitted,

*K. Alison de Runtz*

K. Alison de Runtz  
Reg. No. 37,119

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DEC - 3 2002  
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